

II. Listing of Claims

This listing of claims will replace all prior versions, and listings, of claims in the application:

Claims 1-22 (Cancelled).

23. (Previously Presented) An assembly of microcomponents comprising:
at least two microcomponents fabricated with a separation distance therebetween; and
at least one of said at least two microcomponents including an extension part comprising an extension member that is movably extendable toward another of said at least two microcomponents to reduce said separation distance therebetween.

24. (Original) The assembly of claim 23 wherein a separation of at least said separation distance is required between said at least two microcomponents during fabrication of said at least two microcomponents.

25. (Original) The assembly of claim 23 wherein said extension member is movably extendable to reduce said separation distance without being removed from a substrate on which said at least two microcomponents were fabricated.

26. (Original) The assembly of claim 23 wherein said extension member is movably extendable to eliminate said separation distance.

27. (Original) The assembly of claim 23 wherein said extension member is movably extendable to reduce said separation distance in a manner that requires no electrical power.

28. (Previously Presented) The assembly of claim 23 wherein said at least one of said at least two microcomponents further comprises a latching mechanism to latch said extension member once it is extended to a desired position.

29. (Previously Presented) The assembly of claim 28 wherein said latching mechanism comprises at least one notch and at least one engaging member arranged to engage said at least one notch.

30. (Original) The assembly of claim 29 wherein said at least one notch is included on said extension member, and wherein said at least one engaging member is included on at least one arm that is positionally fixed relative to said extension member.

31. (Original) The assembly of claim 23 wherein said assembly is insensitive to etching inaccuracy encountered in a process utilized to fabricate said microcomponents.

32. (Original) The assembly of claim 31 wherein said extension part comprises features arranged such that said extension part compensates for said etching inaccuracy.

33. (Original) The assembly of claim 32 wherein said extension part compensates for said etching inaccuracy in a manner that results in said extension member being movably extendable to reduce said separation space to provide separation distance consistent with separation distance that would be recognized if said etching inaccuracy were not present.

34. (Original) The assembly of claim 31 wherein said etching inaccuracy includes inaccuracy selected from the group consisting of: over-etching and under-etching.

35. (Previously Presented) The assembly of claim 23 wherein said assembly comprises an assembly selected from the group consisting of:

a linear stepper, a rotational stepper, and a planetary bearing.

36. (Original) The assembly of claim 23 wherein at least one of said at least two microcomponents is totally released from a substrate.

37. (Original) The assembly of claim 36 wherein positional accuracy of said totally released microcomponent is maintained at least in part by said extension part.

38. (Previously Presented) The assembly of claim 23 wherein the separation distance is no less than a minimum possible feature size of the at least two microcomponents, collectively.

39. (Currently Amended) The assembly of claim 23 wherein the extension member is configured to impart movement to at least one of the at least two microcomponents.

40. (Previously Presented) The assembly of claim 39 wherein the extension member is coupled to an actuator configured to generate movement of the extension member.

41. (Previously Presented) The assembly of claim 23 wherein the extension member includes a notch, and wherein at least one of the at least two microcomponents is positionally fixed relative to another of the at least two microcomponents and includes an arm having a barbed end configured to engage the notch.

42. (Previously Presented) The assembly of claim 41 wherein the arm is configured to deflect in response to reducing the separation distance between the at least two microcomponents, and wherein the arm is further configured such that the arm deflection relaxes in response to the engagement of the notch and the barbed end.

43. (Previously Presented) An apparatus, comprising:
a first microcomponent; and
a second microcomponent separated from the first microcomponent by a separation distance, wherein the separation distance is adjustable in response to orientation of a first portion of the second microcomponent relative to a second portion of the second microcomponent.

44. (Previously Presented) The apparatus of claim 43 wherein the second portion of the second microcomponent is a stationary portion relative to the first microcomponent and the first portion of the second microcomponent is a movable portion relative to the stationary portion and the first microcomponent.

45. (Previously Presented) The apparatus of claim 43 wherein the first portion is movable between a plurality of positions relative to the second portion, and wherein the first and second portions are engaged in one of the plurality of positions.

46. (Previously Presented) The apparatus of claim 43 wherein the first portion is movable between a plurality of positions relative to the second portion, and wherein at least one of the first and second portions is configured to deflect in response to movement of the first portion towards at least one of the plurality of positions.

47. (Previously Presented) The apparatus of claim 43 wherein the first microcomponent is one of a plurality of first microcomponents and the second microcomponent is one of a plurality of second microcomponents each separated from a corresponding one of the plurality of first microcomponents by a corresponding one of a plurality of separation distances, wherein each of the plurality of separation distances is adjustable in response to orientation of a movable portion of a corresponding one of the plurality of second microcomponents relative to a stationary portion of the corresponding one of the plurality of second microcomponents.

48. (Previously Presented) The apparatus of claim 43 wherein a first one of the first and second microcomponents includes a barbed feature and a second one of the first and second microcomponents includes a notched feature, wherein the barbed and notched feature are configured to engage to substantially constrain relative movement of the first and second portions.

49. (Previously Presented) The apparatus of claim 43 wherein the first portion of the second microcomponent is configured to interface with a gripper interface that is configured to apply a motive force to the first portion for the orientation of the first portion.

50. (Previously Presented) The apparatus of claim 43 wherein the first portion of the second microcomponent is configured to interface with a tweezer interface that is configured to apply a motive force to the first portion for the orientation of the first portion.

51. (Previously Presented) The apparatus of claim 43 wherein the first portion of the second microcomponent is configured to interface with a probe interface that is configured to apply a motive force to the first portion for the orientation of the first portion.

52. (Currently Amended) The apparatus of claim 43 wherein the first portion of the second microcomponent includes an aperture configured to receive a ~~gripper~~ device that is configured to thereby apply a motive force to the first portion for the orientation of the first portion, wherein the device is selected from the group consisting of a gripper device, a tweezer device, and a probe device.

53. (Previously Presented) The apparatus of claim 43 wherein the separation distance is a minimum distance between a first edge of the first microcomponent and a second edge of the second microcomponent, wherein at least a portion of a first profile of the first edge substantially conforms to at least a portion of a second profile of the second edge.

54. (Previously Presented) The apparatus of claim 53 wherein at least a portion of the first profile has a first tooth-edged configuration and at least a portion of the second profile has a second tooth-edged configuration corresponding to the first tooth-edged configuration.

55. (Previously Presented) The apparatus of claim 43 wherein at least a portion of at least one of the first and second microcomponents is a rotational gear.

56. (Previously Presented) The apparatus of claim 43 wherein at least a portion of at least a first one of the first and second microcomponents is a rotational gear that is selectively rotatable relative to a second one of the first and second microcomponents based on adjustment of the separation distance.

57. (Previously Presented) The apparatus of claim 43 wherein the first and second microcomponents are located on a substrate, wherein at least one of the first microcomponent, the first portion of the second microcomponent, and the second portion of the second microcomponent is positionally fixed relative to the substrate, such that the relative orientation of the first and second portions of the second microcomponent includes movement of at least one of the first and second portions relative to the substrate.

58. (Previously Presented) The apparatus of claim 43 wherein the first and second microcomponents are located on a substrate, wherein at least one of the first microcomponent, the first portion of the second microcomponent, and the second portion of the second microcomponent is positionally fixed relative to the substrate, such that the relative orientation of the first and second portions of the second microcomponent includes lateral movement of at least one of the first and second portions across the substrate.

59. (Previously Presented) The apparatus of claim 43 wherein the first and second microcomponents are located on a substrate, wherein a first one of the first and second portions of the second microcomponent is positionally fixed relative to the substrate via one of direct and indirect coupling to the substrate, and wherein a second one of the first and second portions of the second microcomponent is not directly coupled to the substrate but is positionally fixable relative to the substrate by selectable indirect coupling to the substrate via engagement between the first and second portions.